

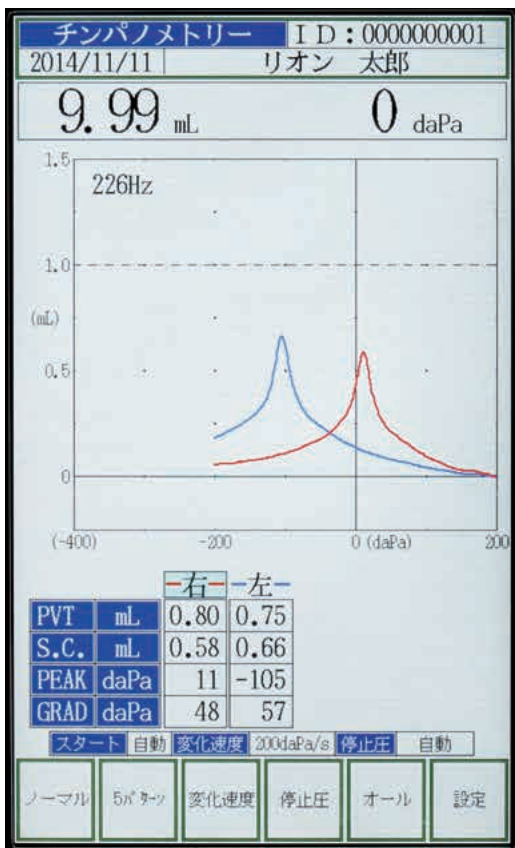
RS-H1

## Tympanometry

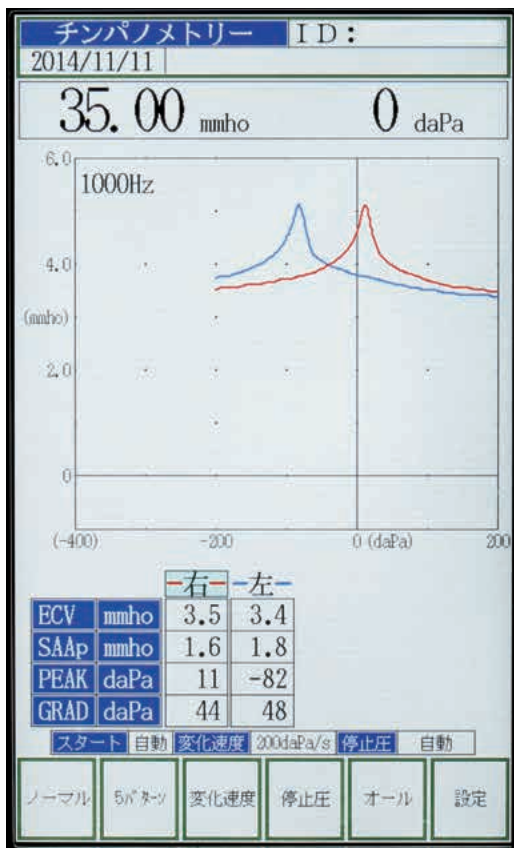
- It is equipped with 1000 Hz probe tone. It is possible to do Tympanometry which is suitable for newborn babies.
- The left and right test results can be displayed in color on the same screen, and 5 patterns can be displayed on the same screen.
- Automatically measure and display ear canal volume, static compliance, and peak pressure. (Probe tone 226 Hz).
- Automatically measure and display ear canal volume, static compliance, and peak pressure. Static acoustic admittance can be displayed by selecting from "Positive Tail" or "Negative Tail". (Probe tone 1000 Hz)
- "Gradient" showing the steepness of the peak can also be displayed.
- Tympanometry "Relative display (MCT)", "Absolute display (MPT)" can be switched.

### Tympanogram

Probe tone 226 Hz

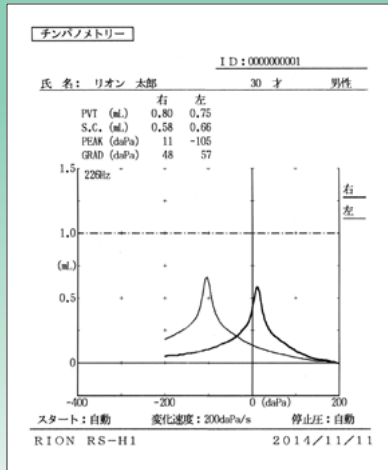


Probe tone 1000 Hz

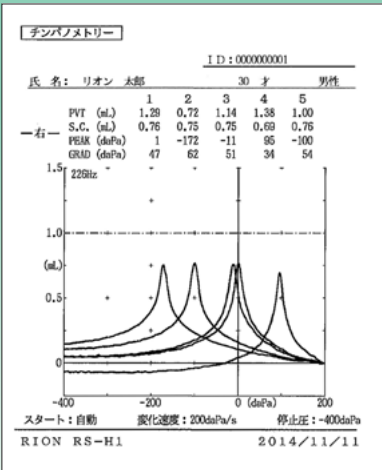


### Printout example

Left and right test result simultaneously



5 pattern simultaneously



## IMPEDANCE AUDIOMETER RS-H1

### Specification

Type according to IEC60645-5: Type 1-Diagnostic/Clinical

#### Test function

##### Tympanometry

Probe tone: 226 Hz, 85 dB SPL, 1000 Hz 75 dB SPL (According to IEC 60318 - 5: 2 cm<sup>3</sup> coupler for the measurement of hearing aids and earphone coupled to the ear by means of ear inserters).  
Display mode: Left and right overwriting or 5 data overwriting.  
Equivalent volume range: When probe tone 226 Hz is selected.  
0.10 ~ 9.99 mL (display range).  
0.20 ~ 9.00 mL (error guarantee range).  
When probe tone 1000 Hz is selected.  
0.22 (0.05 mL) ~ 35.00 (8.00 mL) mmho (display range).  
0.44 (0.10 mL) ~ 26.50 (6.00 mL) mmho (guaranteed error range).  
Range: mL / div 0.5, 1.0, 1.5, 2.0, 3.0 Automatic selection functions are available.  
mmho / div 0.5, 1.0, 2.0, 4.0, 10.0 Automatic selection functions are available.  
Pressure range: +200 ~ -600 daPa; +200 ~ -400 daPa; +200 ~ -200 daPa; +200 ~ automatic stop.  
(Automatic stop of conditions: -200 daPa equivalent volume value in the following stop when down to about 1/3 of the static compliance. Maximum -400 daPa).  
The screen format has two types of pressure range +200 ~ -600 daPa and +200 ~ -400 daPa.  
Pressure group acceleration: 200 daPa / sec; 50 daPa / sec.  
Display: When 226 Hz is selected.  
Tympanogram can be overwritten left right or overwritten with 5 data.  
Numerical values are peak pressure, S. C, PVT, Gradient, Probe tone frequency.  
Relative display (Meatus compensated Tympanometry).  
Absolute display (Meatus compensated Tympanometry).  
When 1000 Hz is selected.  
Numerical values are peak pressure, SAA (p / n), ECV, Gradient, probe tone frequency.  
Relative display (Meatus compensated Tympanometry).  
Absolute display (Meatus compensated Tympanometry).

##### Reflex test

Probe tone: 226 Hz, 85 dB SPL.

Test mode: The following five types

- AUTO: Measured with the level of stimulus tone automatically changed and continuously on the same side / opposite side for the set frequency.  
Threshold can be set.  
Can set the stop level of stimulus tone.  
MANUAL: Measure with arbitrary stimulus tone frequency, level, timing.  
Automatic (Measured with the level automatically changed for the set frequency).  
Threshold can be set.  
ADD: Measure by adding at any stimulus tone frequency and level.  
Addition time can be selected from 5; 10; 20 times.  
DECAY: Measure by posting stimulus tone for 10 seconds at arbitrary 1 stimulation tone frequency and level.  
Measurement time 12.5 seconds.  
LATENCY: Measure by adding averagely at arbitrary 1 stimulation tone frequency and level.  
The addition time can be selected from 1; 5; 10; 20 times.  
Has cursor function.

Waveform display: Can switch from actual waveform to simplified display (AUTO only).

Sensitivity: 0.225 (AUTO only), 0.05, 0.1, 0.2 mL / div

Pressure range :: +200 ~ -600 daPa

Measurement pressure: atmospheric pressure, tympanogram peak pressure, manually set pressure.

Setting change of mechanical pump / servo pump is available.

Stimulus tone: As shown in the table above.

\* Specifications are subject to change without notice for improvement.

\* Data such as test screens and printout examples posted on this page are prepared for catalogs.

Frequency (Hz)	Pure tone					Noise		
	250	500	1000	2000	4000	8000	Wide Noise	Narrow Noise
Synthesizer (dB HL)	50~110	50~110	50~110	50~110	50~110	50~110	50~90	50~90
Opposite side (dB HL)	50~105	50~110	50~105	50~105	50~105	50~105	50~120	50~120
Side (dB HL)	50~100	50~120	50~120	50~120	50~120	50~90	50~120	50~120

However, at the time of LATENCY test, the same side 500Hz: 50 ~ 100 dB SPL, 50 ~ 90 dB HL shall be set. Or, the noise output of the same side is not performed.  
Wide noise: 500 ~ 4000 Hz noise  
Low noise: 500 ~ 2500 Hz noise  
High noise: 2500 ~ 4000 Hz noise  
Synchronization, opposite coupler and 1K reference level are according to IEC 60645-5.  
Minimum level step: 5 dB

##### Reflex (AUTO)

Stimulus tone

Frequency: On both the frequency side and the opposite side, there are four frequencies of 500, 1000, 2000, 4000 Hz.  
ON / OFF setting is possible for each frequency.

Level step 5 dB (7 level), 10 dB (4 level) can be selected.

Start level 70 dB, 80 dB, optional.

The threshold determination function 0.025 mL, 0.05 mL, OFF can be selected.

Expanded display: Expand and display the waveform of the selected frequency.

Stop stimulation tone: Can set the stop level of stimulation tone.

##### Reflex (Manual)

Stimulus tone

Frequency: Same side or opposite side can be selected arbitrarily.

Tone posting 1.5 seconds, manual (posted while pushing stimulus notice bulletin), can be selected automatically (rising automatically in steps of 5 dB from the set start level).

Continuous measurement result (overwrite), single (for one screen only).

Stimulus tone: single only when automatic.

Sweep speed 2.5; 5.0; 10.0; 20.0 seconds / screen selectable.

Threshold judgment function 0.025 mL, 0.05 mL, OFF selectable.

However, stimulation tone: valid only when automatic.

##### Reflex (ADD)

Stimulus tone posting 0.5; 1.0; 1.5; 2.0 seconds selectable.

Adding times 1; 5; 10; 20 times selectable.

Sweep speed 2.5; 5.0; 10.0; 20.0 seconds / screen selectable.

##### Reflex (LATENCY)

Stimuli tone posting 0.5; 1.0; 1.5; 2.0 seconds selectable.

Adding times 1; 5; 10; 20 times selectable.

Sweep speed 2.5; 5.0; 10.0 seconds / screen selectable.

Cursor function

##### Tympanometry & flex test

Continuous test of Tympanometry 226 Hz (left and right over writing) and

Reflex Auto test

##### Digital section

Interface: RS-232-C: Data output, card reader / bar code reader

LAN: Data input / output

External switch: Start / stop measurement by switch

Waveform output: Electrical output

Indicator: 7 inch wide color LCD, 800 x 480 dots, resistive touch panel

Built-in printer: 4 inch thermal printer, 832 dots / line, 8 dots / mm

##### Power supply part

Classification of protection against electric shock by type: Class I device

Classification of mounting parts depending on level of protection against electric shock: B type mounting part

Power: AC220V 50 Hz 60VA

##### Environmental condition

Use environmental conditions: Temperature 15 ~ 35°C.

Relative humidity 30 ~ 90% (without any condensation)

Pressure 700 ~ 1020 hPa (altitude 3000m or less)

Transport and storage environmental conditions: Temperature -10 ~ 50°C.

Relative humidity 10 ~ 90% (without any condensation)

Pressure 500 ~ 1050 hPa

##### Size and weight

Body: About 350 (width) x 295 (depth) x 290 (height) mmx about 6.0 kg

##### Accessories

Ear Probe	ET-05	1	Earplug set	RS-M1-S10	1
Earplug adapter for ET-05	ET-05-S11	2	Earplug for the RS		1
Air conduction handset	AD-068F2	1	Big, Medium, Small		1
Air conduction adapter assembly	EB-01A-017	1	Earplug 7-14		1
Headband adapter for ET-05	ET-05-S12	1	Earplug 15-19		1
Head band assembly for ET-05	ET-05-S13	1	Cleaning Wire	RS-32-026	1
Fuse	Q218002-MXP	2	Recording paper axis	AA-M1-025	1
			Thermal recording paper	TP-42	2
			3P power cord with ground		1

Specifications subject to be changed without notice

Made in Japan

**RION CO., LTD.**  
URL: <http://www.rion.co.jp/english>

3-20-41, Higashimotomachi, Kokubunji, Tokyo 185-8533, Japan  
Telephone: +81-42-359-7862 Fax: +81-42-359-7457

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## IMPEDANCE AUDIOMETER RS-H1



- Multifunctional type which is suitable for clinical and research corresponding to numerous tests
- Automatic measurements for a variety of test from tympanometry to reflex tests.
- The test results are stored in the internal memory and printed out in batches for each tested item, inspected ears.



1000 Hz probe tone, can do tympanometry that is suitable for newborns.

For both 226 Hz and 1000 Hz, the Tympano-gram can be compared with right and left or 5 data.

Equipped with LAN interface, also supports card reader and bar code reader



# RS-H1

## Multifunctional type for clinical and research with enhanced function and operation.

### Characteristic

- The test can select either automatic start or manual start, and can execute the automatic measurement of both tympanometry and reflex test consecutively.
- User can change various condition settings such as sweep stop pressure of tympanometry, the start tone pressure level, level step of Reflex test.
- The test result is stored in the internal memory and is printed out by batch for each test item, test ears.
- In addition to the built-in servo pump, pressure setting of the reflex test is possible by using an external mechanical pump (accessory).

Smaller size to save space  
The width is 15.7% (about 6.5 cm) and the depth is 24.9% (about 9.8 cm) smaller than our previous product (RS - 22)\*



Width reduction 15.7% (6.5 cm)

Easy operation with touch panel  
Some actions such settings and ID input can be operated with the such as touch panel, making it easier to use.



Easier to use and improved ear probes  
The transition from the handheld to the headset is smooth.



LED display indicating measurement status



Easy to wear to the headband

Easy to use operation panel  
Equipped with a probe holder in the main body

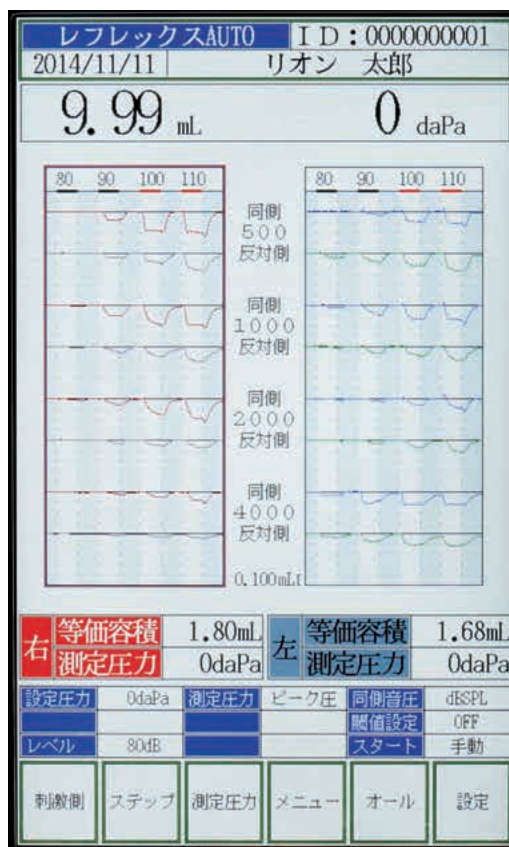


Results of cooperation with electronic medical record system are posted on screen and print example.

### Reflex test

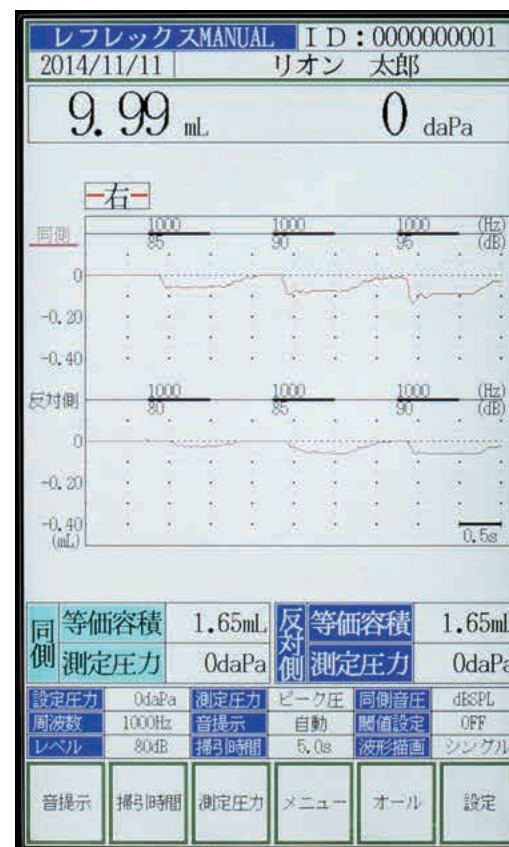
- Five modes (AUTO, MANUAL, ADD, DECAY, LATENCY) are carried.
- Easy threshold measurement in automatic mode (AUTO), measurement with arbitrary level, frequency, timing by reflex test (MANUAL) is possible.
- Easy reflex test (DECAY) is possible with 10 seconds stimulation.
- In addition to "real wave punishment display", "simple display" can also be selected. (Reflex test <Auto> only) Measurement of latency time (Reflex check (Latency)) has become more convenient.
- It is possible to independently set the cursors of the same side waveform and the opposite side waveform. And it is possible to display the latency time of each side

#### Test mode: AUTO



For the set frequency, measure the same side / opposite side automatically by changing the stimulus tone.

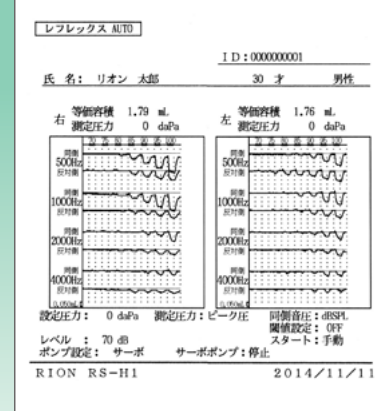
#### Test mode: MANUAL



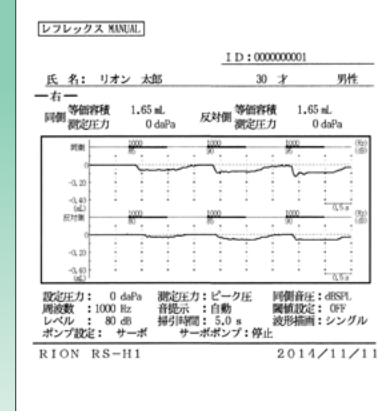
Measure with the set frequency, level, timing

### Printout examples

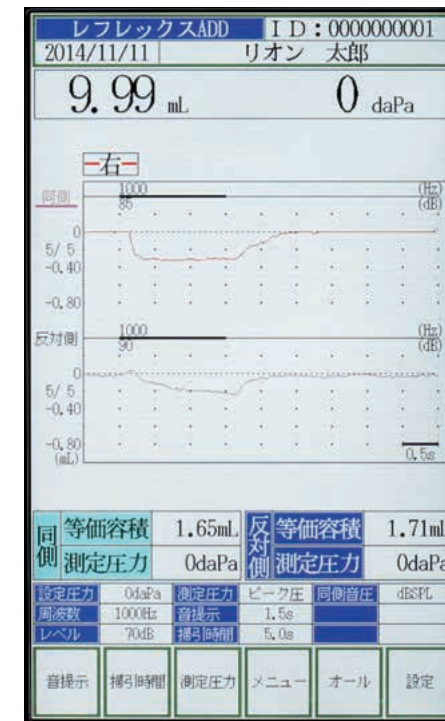
#### Reflex test (Auto)



#### Reflex test (Manual)

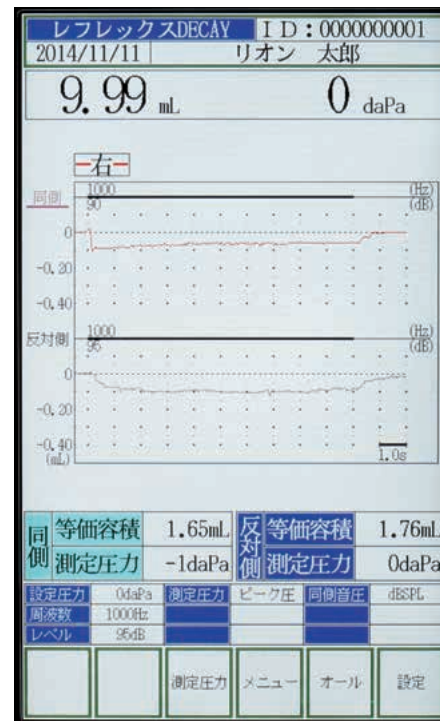


#### Test mode: ADD



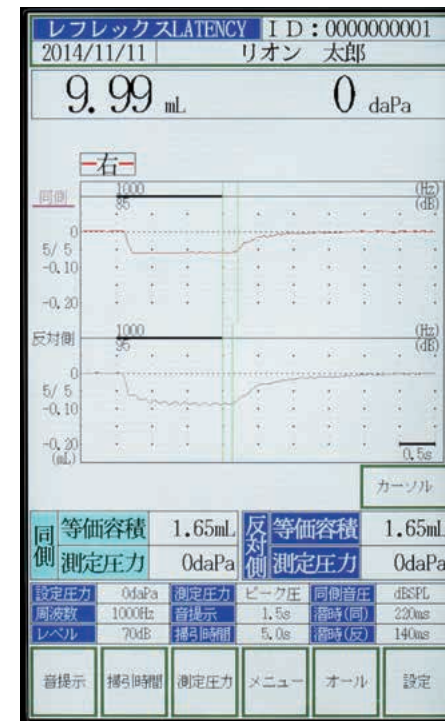
Measure by adding at the set frequency, level, timing. Select from adding time 5, 10, 20.

#### Test mode: DECAY



Measure with posting stimulus tone for 10 seconds at the set frequency and level. Measurement time 12.5 seconds

#### Test mode: LATENCY

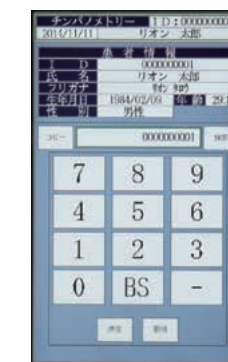


Measurement is performed by adding and averaging at the set frequency, level and timing. Select adding time from 1, 5, 10, 20 times. Time measurement at an arbitrary place is possible

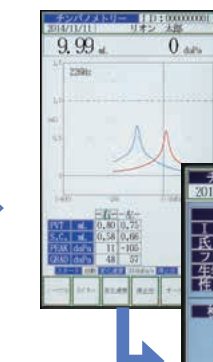
### Cooperation with the electronic medical record system

User can transfer test results directly by using optional data linkage system.

#### Patient Information



Patient information can be recalled from the electronic medical record system by ID number. The ID number can be entered with an optional card reader or bar code reader.

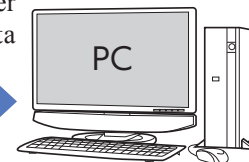


Selection of the audit's name

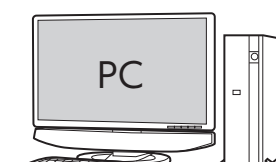
Image output is also possible.



Images can be transferred directly to the computer without using the data linkage system.



Electronic medical record system



Please contact our sales department for use.